Meeting Summary

eHealth Technical Working Group
December 8, 2009 11:00AM-12:30PM

For additional information, please refer to the various meaningful use/shared services documents uploaded by TWG members on Project Spaces (in the sub-folder "SharedServices_Brainstorming"). Note that to improve readability and understanding, the group's discussion is summarized thematically below rather than chronologically.

The meeting time was spent reviewing the contributions of group members towards enumerating and understanding what shared services may be important as part of a state HIE infrastructure to support the various meaningful use criteria.

E-prescribing (Jeff Evoy), document available here:
The document describes functions related to prescription submission, pharmacy status reporting, refill processing, and renewal processing. Real-time eligibility and formulary checking would occur at the time of medication selection. Jeff noted that it is difficult to know what functionality should be at the HIE level vs. part of the EHR, since the architecture is yet to be defined.

Discussion Points:

- Relevant Shared Services
    - Walter stated that specific application functionality is important, but out of scope, and that our focus is primarily on identifying the *information exchange* aspects of meaningful use. From what is described, however, certain services could be relevant, such as real-time eligibility checking with payers, and formulary checks performed either in real time or based on data periodically downloaded into EHRs. As an example, RxHub offers real-time formulary checks.
- Inclusion of Medication Fill History
    - Tim Andrews suggested the addition of medication fill history as an important e-prescribing function, since often practitioners are interested in reviewing such information and most e-prescribing applications have a history function. This functionality is also mentioned as one of the seven HIE services in the State HIE Funding Opportunity Announcement from ONC.
    - Rim Cothren pointed out that in the meaningful use matrix, fill history and medication reconciliation appear under Care Coordination rather than e-Prescribing; this functionality can thus be part of either category and deciding which one it best belongs to requires discussion.
    - Walter raised the issue of whether medication fill history is part of meaningful use for e-prescribing in 2011. He observed that medication history is probably the most difficult transaction type to get pharmacies to support, e.g. through Surescripts. Tim stated that the meaningful use notice of proposed rulemaking had not yet been released, but that

fill history was a part of the State HIE FOA (which covers e-prescribing criteria through 2015). Jeff suggested that fill history would be necessary for Medicare reimbursement.

- Purpose and scope of shared services for e-prescribing
    - Orlando Portale asked whether the shared service would provide actual e-prescribing functionality, or provide connectivity and access to backend data. Jeff responded that the focus was on providing the data communication/conduit. Walter agreed, noting that because existing e-prescribing applications exist and are relatively mature, a shared e-prescribing application would probably not be needed.
- E-prescribing connectivity services
    - The largest pre-existing service is Surescripts, which operates a private network that includes all of the major pharmacy chains and provides its own transaction protocols. Eileen Moscaritolo stated that there are a number of documented problems with the Surescripts framework, including issues with eligibility reconciliation and providers not being able to prescribe from multiple locations. Surescripts is apparently addressing these issues. However, Eileen expressed concern that the deficiencies of Surescripts might prevent large organizations from participating in an HIE using Surescripts and adequately performing quality measurement.
    - Tim Andrews pointed out that Surescripts has 50% penetration and much less adoption. This means that there will be many instances of failure where prescriptions still need to be faxed. While Surescripts has been adopted by the large pharmacy chains, many small and independent pharmacies as well as most hospitals do not participate in Surescripts.
    - Walter asked whether there were any alternatives to Surescripts. Tim responded that Surescripts was the only large scale environment. Most software packages and hospital systems had their own independent solutions.
    - Walter suggested revisiting the issue of a shared e-prescribing service at a later time. The solution might be finding a way to increase adoption of Surescripts, or it might be to develop an alternative shared service that can meet the needs of other pharmacies and hospitals.
    - Walter cautioned the group from assuming that the architecture was going to based on "an HIE" or RHIO model. Quality measurement might benefit from such a model, but it may not be required for e-prescribing. If the Surescripts model could be improved, it may adequately support e-prescribing in areas where an HIE does not exist.
- Framework for defining needs
    - Tim Andrews raised the question of how the need for shared services will be defined. One approach is to define needs simply around the achievement of meaningful use. A second approach is to go beyond meaningful use and include goals such as improved outcomes, which will require addressing more difficult issues such as medication reconciliation. Another factor that will impact need is the definition of e-prescribing. For example, if the definition of electronic transmission can be met by a computer sending a fax, this requirement can be met by using a pre-existing system. However, a definition that requires transactions to be completely electronic has totally different

ramifications. [Note: The current meaningful use recommendations for 2011 specify "Generate and *transmit* permissible prescriptions electronically (eRx)."]

E-Lab (Dave Handren), document available here:

The requirement for this meaningful use goal is to incorporate lab results into EHRs as structured data. Dave's document suggests leveraging the "California National Healthcare Information Network" (NHIE) to accomplish this. The California NHIE consists of LBNH and Kaiser, who have been participating at the national level interoperating with other NHIEs around the country as part of NHIN. Last year, the use case involved the ability to exchange of lab results using the C37 HITSP construct and the ability to receive lab results electronically in C36 format and send it to local HIEs and into EMRs/EHRs. In this scenario, the NHIE would have the ability to enable ordering, receiving, and sending of labs everywhere in either format. The NHIE would store a complete collection of lab results from every laboratory, institution, and HIE. To interoperate with the NHIE, CCHIT certification standards are suggested to certify regional HIEs and EMR/EHR products.

Discussion Points:

- Clarification of the proposed service
    - Walter asked whether what was being proposed was a regional/state HIE as a shared service that provides connectivity. Dave clarified that this service would be a single "super-HIE" that shares labs across the country and can also conduct orders anywhere in the state.
    - Walter then suggested that this was a many-to-many conduit, similar to the Surescripts approach but for lab ordering and results reporting, with the added functionality of a web portal. Tim Andrews later commented that the suggested approach was different from Surescripts in that the latter is a private network with proprietary protocols, where as the former is a "universal lab hub" with an open set of protocols based on national standards.
    - Orlando asked whether a primary benefit was to provide physician offices that did not have an EMR/EHR with lightweight lab ordering and reporting capabilities through the cloud, drawing an analogy to an Allscripts lightweight e-prescribing solution. Dave answered in the affirmative, stating that LBNH also plans on offering a lightweight EHR solution.
- Advantages of proposed NHIE solution
    - Dave Handren argued that the NHIE approach would be worth pursuing because it could provide complete interoperability for lab data, which has many advantages. Providers who are not otherwise connected to lab systems would be able to receive lab results. Lab result data will need to be shared with the CDC for biosurveillance, as well as with the SSA. The NHIE approach would net huge savings, e.g. communicating with the federal government for SSA claims, allowing claims to be processed in a fraction of the time that it currently takes. These results can only be achieved with centralization, such that data from all entities are in the NHIE federated architecture.

- Tim Andrews expressed support for the solution, stating that the approach was on the right track. He pointed out that one issue to be aware of is that EHR vendors may claim support for the proposed NHIN standards, but in reality only provide this support with the latest version of their products. Dave Handren replied that currently, 85 EHR products can interoperate with the proposed HIE.

- Issues with proposed NHIE service
  - Walter voiced the concern that the portal functionality alone, while useful in other ways, would not meet meaningful use. Eileen Moscaritolo agreed that lab data would need to be incorporated into the provider's EHR, not just displayed via a portal. Dave clarified that the incorporation of lab data into an EMR/EHR would be possible and that there would be no limitations on the types of interactions that would be supported for laboratory data.
  - Walter pointed out that the idea of an NHIE for lab data, in which lab results are aggregated and made available for community-wide review, is useful but goes far beyond meaningful use criterion for incorporating structured lab data into EHRs. In particular, the storage of lab results in a centralized repository raises additional patient-consent and confidentiality issues that may or may not be worthwhile undertaking in the course of addressing meaningful use.
- Meeting meaningful use goals vs. other goals
  - Tim brought up the general question again of whether the focus on shared services should be to simply support meaningful use, or to achieve California's broader priorities for healthcare quality and cost improvement. An argument could be made that meaningful use could be achieved without an HIE, other than the typical proprietary networks that already exist, e.g. Surescripts or LabCorp. While Dave Handren disagreed, Tim responded that he had been in many presentations by vendors claiming that this was what their products provided.
  - Walter pointed out that, practically speaking, it was unlikely that more than a small minority of physicians would be able to connect to an HIE by 2011. Thus, if an HIE model was a requirement for meaningful use, very few providers would successfully meet that requirement. However, if the model were simply to provide sufficient data connectivity to get electronic lab results integrated into their EHRs, and to perform e-prescribing, etc., many more will be able to meet the MU criteria. He did not believe that the federal government would raise the bar that high for meaningful use. Given this, would "an HIE" be necessary to reach meaningful use? Or could other combinations of services accessed through a service bus be sufficient?
  - Rim Cothren cautioned the group to not to fall into the trap of assuming that "an HIE" will be required to meet meaningful use criteria. Instead, the group should figure out where shared services play a role that makes sense for everyone, and how this may fit into the plan so that meaningful use can be achieved in the timeline provided. An appropriate balance would need to be found between what functionality can be met by EHRs and existing connectivity services what needs to be addressed through new shared services.

    - Walter posed the question of whether going beyond meaningful use was part of the group's charge, and whether it was advisable to "raise the bar" at the risk of not achieving meaningful use because the bar has been set too high.
    - Dave Handren expressed interest in honing his proposed service description to just what is necessary to provide meaningful use. Fundamentally, this would involve the HIE providing some electronic form of results reporting to any EHR. The desired data structures would need to be defined, either or both C36 or C37. Although impractical to require C37 any time soon, C36 is certainly achievable, since most HL7 versions just below 2.5 are easily considered 2.5. This approach would not involve raising the bar much at all.
- Certification issues
    - Basit Chaudry questioned whether certification of the various components by CCHIT should be specified (as was done in Dave's document), given that it is unclear whether CCHIT will continue to be supported in the future. Dave Handren believed that ONC will move forward with CCHIT certification for NHIN. Walter stated that the requirement for certification should remain general, without naming CCHIT in particular.
- Focus on architecture vs. implementation
    - Basit raised a concern about the discussion seeming to focus too deeply on implementation, and suggested it would be more appropriate for the group to address the higher level architecture needed for shared services. The concern was that concepts being proposed, such as Surescripts, hubs, and portals represented particular implementations of methods, and did not get at the more fundamental issue of how meaningful use services are going to be constructed or what they are meant to achieve. Dave Handren clarified that the service being discussed was health information exchange, and that the service could operate as a hub or portal. Dave Minch later agreed, suggesting that the discussion needed to get back to developing an architecture for how shared services could be deployed and delivered, instead of immediately jumping to the functionality that would be supported.
    - Walter reminded the group that the committee is being asked to prioritize what shared services should be made available to enable meaningful use. Shared services need not be applications; they can also include concepts such as directories and authentication. At the highest level, there seemed to be agreement that a reasonable architectural approach would involve a service-oriented architecture with an enterprise service bus providing access to shared services, including connectivity services. One participant added that the information exchange standards themselves were also an important component of the architecture.
    - Pertaining to lab services, Walter then summarized that there appeared to be agreement around the need for better aggregation of connectivity between EHRs and labs, which could be accomplished through some type of shared service "hub"; there may also be benefit in connecting to a single service for each provider and each lab rather than having competing services. Generically, the service being described is some

capability in the cloud that will facilitate connectivity between labs and EHRs, and obviate the need for point-to-point connections.

- David Bass asked whether in fact there were two capabilities being suggested: (1) a capability to make lab results accessible by EHRs, and (2) a capability for other systems to discover lab results data. Walter responded that targeting both of these in the near term would be going beyond the requirements for meaningful use. Dave Handren stated that the service being proposed had to do with (1) rather than (2). A discussion on whether this capability involved data push or pull was cut short due to time constraints.

Care Coordination (Rim Cothren), document available here:

The specific goals for meaningful use in this area include exchanging key clinical information, accessing comprehensive clinical data, and the sharing of an electronic summary of care. Although medication reconciliation is also found in the meaningful use matrix under Care Coordination, Rim questioned whether this functionality belonged here or elsewhere, since it could be an EHR functionality related to e-prescribing. Walter suggested that while medication reconciliation often requires health information exchange, there was more than one way to get the relevant information to be reconciled. For instance, the information could be accessed through a clinical summary, but it could also be found through a medication history inquiry. For these reasons, medication reconciliation was put aside for the moment in order to focus on clinical summary exchange.

From the clinical summary exchange use cases presented in the document, several services were suggested: a query/retrieve (pull) service for clinical summary data, an unsolicited transfer (push) service for the same, patient discovery services to coordinate patient identities, and provider directory services that include provider and system addressing information. Additionally, the Nationwide Privacy and Security Framework requires a technical trust framework for end-to-end message security, and a technical consent framework that enables granular consumer preferences for information sharing.

Discussion Points:

- Rim stated that for clinical summary exchange, arguments could be made for either a pull service alone or both pull and push services. Walter asked whether push alone would be a viable model. Rim replied that pull functionality would almost certainly be required as well, since the potential recipients of the document will not always be known at the time of document creation. Dave Minch agreed with the importance of pull.
- There was some discussion about push services and how much additional infrastructure would be needed to support such services. Rim pointed out that push generally requires a great deal more in terms of infrastructure compared to pull. For instance, the directory service to identify providers would also need to have addressability capabilities to determine what the target system for transfer is for a particular provider, patient, and set of data.
- Dave Minch replied that while push could imply more complexity, there are some very simple scenarios around transition of care where the destination is well known. Some examples are

transitioning from Physician A to Physician B, and transferring from physician to hospital back to physician. In such cases, the addressee and how to reach the addressee are already known. Rim agreed, and pointed out that his use cases were not detailed enough to distinguish these scenarios. David Bass suggested constraining the concept of push, so that it specifically supports referrals and transitions of care. Rim felt that an approach involving a constrained push and an unconstrained pull would make practical sense today, while leaving open the possibility of developing support for more complicated push down the road. Constraining the push service would decrease the required complexity of provider directory services. Decisions surrounding architectural implications would just need to be made with this in mind. Basit suggested that the tradeoffs in making these decisions be identified for different stakeholders.

- Walter noted that the "lowest bar" represented by meaningful use is to exchange key clinical information electronically among providers and between providers and patient-designated entities. This could be accomplished using push or pull in order to electronically move data from Point A to Point B. With this in mind, the issue comes down to what the most feasible and effective way is to meet meaningful use while building a foundation for further functionality down the road.
- Tim Andrews expressed that his architectural rule of thumb is to do pull if possible because push is generally more complex. He also asked for confirmation that regardless of constraints, electronic communication between a physician and another physician or a hospital would require being connected to an HIE with a directory at least at the local level. Rim clarified that some set of such services would be needed independent of the transaction, i.e. knowledge of who is participating in the exchange, a trust framework, and a secure channel.
- With respect to privacy and security, Rim tried to capture the privacy and security requirements that will apply across all shared services through inclusion of ONC's Nationwide Privacy and Security Framework. Dave Handren noted that the NCVHS had just forwarded the federal guidelines for sensitive conditions to ONC, and suggested that these should be aligned with California guidelines. These guidelines represent a second level of consent for certain data that is quite granular. Walter stated that a consent framework would be needed primarily for a pull model, rather than push. He observed that push is happening today through fax and email without explicit consent, because the information is needed for treatment. Rim was unsure about whether additional constraints might exist for electronic communication in view of the HITECH legislation and meaningful use. David Bass did not believe that additional constraints existed beyond what was in HIPAA, except that previously non-covered entities are now covered under HIPAA.

Population Health and Immunization Registries (Anthony Stever), document available here:

Common shared services proposed for both population health and immunization registries include user registration/authentication, standard data set and data dictionary for data transmittal, standard formats for data transmittal, a secure communication conduit, technical support protocols, and technical and service documentation.

Under Immunization Registries, it was unclear what the term "NVAC" in the document stood for (and Anthony was unavailable to clarify). Walter observed that among the list of functionalities listed for immunization registries, the interfaces for extant immunization information systems were a particularly important component. Scott Christman agreed, pointing out that there were 10 regional immunization registries in California as well as a number of existing reporting systems in the areas of cancer and communicable disease systems that could benefit from such interfaces. Scott also mentioned that currently, the state is trying to create interoperability among the regional immunization registries.

Public Health Reporting (Scott Christman), document available here:
The document addresses the meaningful use recommendations which are specific to syndromic surveillance. Scott noted that there are other kinds of public health reporting besides syndromic surveillance, such as Title 17 surveillance efforts dealing with communicable disease. One of the 2011 goals is transmission of lab results for reportable diseases to public health agencies, which Scott believed could be met if public health agencies are added to the list of participants for e-lab services.

Walter asked about any existing work in the area of electronic lab reporting. Scott reported that recently, two projects have been merged: Web CMR (confidential morbidity reporting), and ELR (electronic lab reporting). He perceived that a service that can push or otherwise interface with that system would be a good solution. The current ELR system is a web-based reporting system that is focused on local health departments.

In Scott's experience, syndromic surveillance usually involves signal detection around chief complaint data in ED encounters, for instance. This is typically done at the local health department level. He expressed some uncertainty about the meaning of "syndromic" in the context of meaningful use. Walter suggested that the term may have more to do with bioterrorism surveillance. Scott replied that in that case, it should be straightforward to define a service that compiles a dataset for access by local health departments to do their signal processing. Walter noted that the challenging part would be getting the signal. One possibility would be to limit the signal to the chief complaint in emergency department encounters. Scott suggested that data de-identification and aggregation be part of the service. The data set could then be pushed to public health departments. It would also be useful to have the capability for public health departments to push any detected results back to providers.

With respect to electronic lab reporting, the set of required reportable lab results is well-defined and in statute. All laboratories are required to participate. Scott believed that one could conceivably push this data to the ELR system being developed. Walter asked whether there were more details available about the ELR system. Paul Collins explained that the idea is to aggregate data into a pipeline and then distribute the data appropriately to various agencies or registries. It also functions as an alerting and early detection system. Scott agreed to get more information on the details of the ELR system and existing methods/APIs for data submission, etc.

Patient-Centered Care, Quality Reporting, and Administrative Simplification (Walter), document available here:

Due to time constraints, Walter will upload these onto the TWG project space for review. Time at the next meeting will be spent briefly going over these as necessary. Walter gave a brief overview of the services proposed in each area:

- For patient-centered care, a service to generate clinical summaries for providers who don't have a mechanism to make their EHR data available to patients, as well as usual standards and authentication, etc.
- For quality reporting, a data aggregation service for smaller providers who are doing quality reporting using claims data (in contrast to larger provider organizations, some of whom are already developing PQRI registries).
- For administrative simplification, a service with clearinghouse-type functions, as well as better standardization around CAQH core rules, and perhaps a multi-payer portal.

General Comments:

Dave Minch commented that he did not understand why the group was focusing on application functionality as opposed to discussing more foundational or core level services that would be necessary for HIE's or organizations to communicate. Walter acknowledged Dave's concern, affirming the importance of addressing architectural issues. After the initial focus on identifying shared services, the next step will be to look at the architecture that is compatible with shared services. The technical architecture will be the work product, and the group will get to this as soon as possible.

Action Items:

- Jeff Evoy will update the e-prescribing document to include medication fill history.
- David Bass suggested that the AHIC medication management use case (circa 2006) may be useful to lay out roles, expected interactions, etc. He will upload this onto the project space.
- Rim will find out to what extent a consent framework is necessary for push services.
- Walter will ask Anthony Stever about the meaning of NVAC under Immunization Registries.
- Walter will follow up with Scott Christman to find out more information about extant immunization registry systems.
- Scott Christman will find out more about the capabilities of the ELR system being developed as well as existing methods/APIs for interfacing with the system.

Next Steps:

- Members will complete their action items, as listed above
- At the next meeting, the group will briefly review the three remaining meaningful use goals, then will spend time addressing higher level questions. The next call will be after the TAC meeting, so certain of the issues discussed today will be raised there, and information brought back to this group.
- Upcoming meetings will continue to follow the schedule emailed to members

Summary of Key Questions/Issues/Decision Points:

- To what extent should the technical architecture design process seek to support goals beyond the achievement of meaningful use?
- What is the appropriate level of architectural discussion for the group? Should issues related to implementation and/or application functionality be included in discussion? How can the correct balance be maintained?
- Committee members should not assume that an HIE/RHIO-based model is required for health information exchange services. Neither should there be an assumption that the state is going to run "an HIE". Instead, the group should be thinking about supporting the exchange of health information in a broad sense, which may entail "an HIE" in certain cases and other mechanisms for health information exchange in others.

Members Present

Name	Organization
Dave Bass	CA Dept. of Health Care Services
Jane Brown	Nautilus Healthcare Management Group
Scott Cebula	Huntington Hospital
Basit Chaudhry	National Coalition for Health Integration
Scott Christman	CA Dept. of Public Health
Paul Collins	CA Dept. of Public Health
Robert("Rim") Cothren	Cognosante, Inc.
Jeff Evoy	Sharp Community Medical Group
Dave Handren	Long Beach Network for Health
Daniel Haun	Adventist
Alex Khayat	Huntington Hospital
Dave Minch	John Muir Health System
Lee Mosbrucker	CA Office of the Chief Information Officer
Eileen Moscaritolo	CalOptima
Orlando Portale	Palomar Pomerado Health District
Steve Saunders	LA County Dept. of Health Services
Jim Thornton	MemorialCare
Ben Word	CA Dept. of Health Care Services
Kris Young	CA Office of Health Information Integrity

Staff Present

Name
Walter Sujansky
Tim Andrews
Peter Hung